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NON-VERBAL COMMUNICATION IN FATHER-CHILD INTERACTION

by

© CAROLYN A. HUMPHREYS

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Non-Verbal Communication in Father-Child Interaction" submitted by Carolyn A. Humphreys in partial fulfilment of the requirements for the degree of Master of Education.

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ABSTRACT

To investigate the use of non-verbal communication behaviour in father-child interaction, forty-six father-child dyads were observed. Fathers behaviour had previously been categorized into different modes: Maturity Demands, Control, Communication and Nurturance. Smiling, glancing and touching behaviours were selected as non-verbal measures. The occurrence of these behaviours within an experimental situation was coded. Analyses of the results indicated no differences among the four fathering modes in the quantity of non-verbal behaviours used. Significant correlations between non-verbal behaviours were observed within each mode, suggesting that the quality of non-verbal behaviour in father-child interaction differs, depending on the father's mode of relating to the child. The results were discussed in relationship to the father's role in his child's development.

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CHAPTER I

INTRODUCTION

The child in the family unit has two significant individuals participating in his early social, emotional and intellectual development - his mother and father. There are myriad ways in which the parent interacts with and responds to the child in guiding his growth; many of these may be beyond consciousness (Renneker, 1968). From both verbal and non-verbal messages, a child learns *who* he is and *how* he is, and he develops behaviours which reflect these feelings. This interplay of verbal and non-verbal communications within the family unit is described by John Brown (1973).

> Here the subtle power of non-verbal communication plays a most significant role... The verbal and conscious response will make up a small percentage of all you communicate to the child and about the child. The rest will be the residuals of your interaction with the child: the role you give him in the family, the manner in which you engage or disengage him, the manner in which you care for him, the manner in which you extend yourself or withhold yourself, the order of priority in greeting, feeding and departing, that you give him, the things you tolerate or do not tolerate in others' responses to him. In these and thousands of other ways you will give him his role and his meaning in the family unit. (J. Brown, The therapeutic family model. p. 6)

The non-verbal communication which occurs in the family is the focus of the present study. These behaviours or cues can be very specific (e.g. slapping a child); others

are more general (e.g. eye contact) (Knapp, 1972). They fulfill many functions, as suggested in the above quotation. A non-verbal behaviour can be used strictly for communication, it can be expressive, it can provide information about emotions, personality traits or attitudes.

The importance of non-verbal communication is readily recognized. Birdwhistell (1972) contends that in a normal two-person conversation, the verbal component carries less than 35% of the social meaning, with more than 65% being on the non-verbal band. Other researchers have categorized the various communication systems man uses. Only two of ten involve words or oral language; the others are non-verbal (Knapp, 1972).

It can be assumed, then, that parents communicate non-verbally with their child. Blurton-Jones (1972) speculates that there may be signals emitted by adults to children which they do not direct to other adults. He notes the high-pitched voice of adults talking to children (p. 19). The ways in which mothers touch children may indicate impatience, approval, or disapproval.

Research on parental use of non-verbal communication is limited. Available studies indicate that specific use of non-verbal behaviours does occur (Hore, 1968; Brady, 1969; Bugental, Love and Gianetto, 1971). The use of glances, smiles and physical contact has been found to differ depending on such factors as socioeconomic status of the parents, sex of the parent and 'warmth' expressed by

the parent.

Parents, as research variables, are quite familiar subjects. However, it is more frequently the mother who is used in invetigations. She develops the primary relationship with the child; she generally fulfills the caretaking role. Thus, she is seen as critical to the child's development. However, researchers are now beginning to speculate on the importance of the father for the child's development. Correlations between certain father behaviours and behaviours in the child have been observed (VanMannen, 1968, Tari, 1971). It seems probable that fathers interact with their children in a significant, influential manner.

The present study is designed to investigate whether in fact, fathers do interact with their children in a specific way. Using designated non-verbal behaviours in father-child interactions in which the fathers previously have been categorized as to mode of fathering, possible differences in the use and pattern of non-verbal behaviours are investigated.

CHAPTER II

LITERATURE REVIEW

Non-verbal communication

Communication between individuals has two components: a verbal and a non-verbal. The former consists of the words that are used; it is the content of the communication. The non-verbal component consists of a wide scope of behaviours. Watzlawick (1967) includes "...posture, gesture, facial expression, voice inflection, the sequence, rhythm and cadence of the words themselves, and any other non-verbal manifestation of which the organism is capable..." (p. 62). Duncan (1969) lists the following non-verbal modalities: gestures and other body movements, paralanguage (voice and speech qualities), proxemics, olfaction, skin sensitivity and the use of artifacts (p. 118).

The non-verbal component, then, is expressive, conveying a message. It is perhaps the primary means of expressing emotion in a communication (Ekman and Friesan, 1968).

In his study of body motion (kinesics) Birdwhistell (1963) focuses on this expressive component of communication. He assumes that feelings are communicated through patterned, social behaviour. Communication through body motion, then, is a learned pattern and permits individuals to share information about emotional experiences. It also provides

a means of sustaining patterned interpersonal relationships.

An interdependence exists between the content and message aspects of a communication. Ruesch and Kees (1966) describe the relationship as the statement proper, and the explanations pertaining to its interpretation (p. 192). The non-verbal behaviour provides 'qualifiers' for this interpretation (Ekman and Freisan, 1968). For example, through non-verbal channels one can repeat, contradict, amplify, or accentuate the spoken word. Jones (1971) suggests that the linguistic component of an interaction is always accompanied by a 'code', which is part of the communication as a whole and inseparable from it. These codes structure communicative behaviours, but are manipulable and therefore can be used for message-carrying (p. 35).

Mebrabian (1968) has devised a formula to account for the impact of the verbal and non-verbal aspects of a communication. Thus: total impact = .07 verbal + .38 vocal + .55 facial (p. 52). It would seem that the manipulable, expressive component of a communication is also the most salient.

These non-verbal behaviours, contends Birdwhistell, (1963) comprise an ordered system that is internalized by the members of a social system. Flexibility in the system is necessary because of individual and situational variations. Thus behaviours have differential meanings depending on the actors and context of the interaction. Hall's (1965) research on social and personal space would

tend to support this. The different distances which are maintained between individuals depend on a number of factors - the norm of the society, the affective relationship between two individuals and their respective statuses. Individuals usually are not aware of this distance factor in their interactions; however, they feel uncomfortable if it is violated.

Renneker (1968) suggests that most non-verbal behaviour originates beyond consciousness (p. 152) and is not part of the communicator's awareness. Perhaps the only time it reaches awareness in an interaction is when there is some disturbance (e.g. psychopathology) which renders the non-verbal mode ineffective in communication.

Various parts of the human body may be used to convey different types of non-verbal messages. Ekman and Freisan (1968) compared facial expression with body position, as modes of communication and hypothesised that the face is an affect display system, whereas the body shows adaptive efforts regarding affect. Specific emotions frequently can be perceived from facial expression. Ruesch and Kees (1965) similarly suggest that facial expressions tend to reflect momentary experience, whereas body posture seems to reflect more fixed attitudes or general moods (p. 64). Renneker appears to be discussing a similar aspect of facial expression in his use of 'immediacy reactions' (p. 157). These are unconscious and instantaneous movement reactions to whatever is happening at that time, and give information

about the individual's inner emotional state. Non-verbal communication occurs, then, through static and dynamic modes and each mode conveys different, but related, information.

The empirical investigation of non-verbal behaviour has utilized several approaches. Duncan (1969) distinguishes these as: a) differentiating the behaviours through a notation system, b) discovering the internal structure exhibited by the behaviours, and c) seeking relationships between the behaviours and other variables (e.g. personality, situation). Of relevance to the present investigation are studies using the last approach.

Visual interaction, or eye contact has received much attention from researchers (Friedman, 1967; Exline and Winters, 1965; Ekman, 1965; Kendon, 1967). Variables which have been investigated in relation to eye contact include speaking versus listening, sex of the actors, and affective quality of the interaction.

Investigations consistently have found that the subject spends more time looking when listening than when speaking. The age and status of the experimenter and the subject in these studies are usually quite similar. It is suggested here that when age and status are varied the results may be different.

Sex of the participants appears to be an important variable. Using same sex pairs, Exline and Winters (1965) found that with females, the total time spent looking at the experimenter was greater than with males. When affect was

varied, women markedly increased eye contact with a preferred experimenter and decreased it with a non-preferred experimenter. This increase in eye contact was not found for males.

When the affective quality of the interaction is varied, differences in mutual glancing behaviour have been found. If an interaction had negative affect the amount of eye contact decreased, for both male and female participants. Exline and Winters (1965) speculated that in order to hide an affective state (often aversive or uncomfortable) a decrease in mutual glancing may occur.

Kendon (1967) used free interaction between university students to study the relationship between gaze direction and duration and the occurrence of utterances. He found that with utterances of five seconds or more, a definite pattern of eye contact behaviour emerged. X would look away at the beginning of his utterance, look at Y as he approached the end of it and continue looking at Y and Y began talking. This allowed X to monitor Y's behaviour and also to regulate the conversation. Y also demonstrated this pattern.

Mutual gazing was also investigated. Both brief and extended mutual gazes occurred and they appeared to have different functions. A brief gaze, Kendon suggested, was an integral part of the set of signals in the interaction - it indicated to the participants that each was still taking account of the other (p. 48). Extended gazes seemed

indicative of the intensifying of the direct relationship between participants. The amount of mutual gazing itself tended to increase in proportion to the extent to which the participants were directly relating and decreased in proportion to the extent to which they wanted to withdraw or avoid interaction. Mutual gazes thus appeared to be instrumental in regulating the level of shared emotional arousal.

Kendon (1967) [illegible]thesised that gaze direction has different functions. The monitoring function enables X to gather information about how Y is behaving, and helps in guiding subsequent behaviour. The regulatory function permits the signaling of intentions and expectations, to regulate conversation. The expressive function permits the expression of attitudes and feelings.

Kendon also investigated smiling in these dyads as an index of emotionality. He found that smiling in each partner of a dyad was closely related to smiling in the other. Furthermore, a relationship between smiling and mutual gazing was observed. The more time that was spent in smiling, the less time was spent in mutual gazing. Kendon suggested that for two participants in an interaction there is a limit to the level of emotion acceptable. One way to achieve or maintain this level is by gaze avoidance, which then results in a decrease in mutual gazing. Eye contact again was seen as important in regulating the emotional level of a communication.

Eye contact or glancing behaviour can be observed to be a critical component of interaction. It appears to serve many functions, both of an instrumental and affective nature.

In studies examining the communication of emotion, facial expression has been found to be a more sensitive channel for indicating feelings than the vocal channel (Levitt, 1964; Mehrabian and Ferris, 1967). Mehrabian and Ferris used three degrees of attitude - positive, neutral and negative, and found that in judging these, the facial component had a stronger effect than the vocal, and the two did not interact. Levitt (1964) obtained similar results and also found that facial expression was as effective as combined vocal-facial communication in expressing emotion.

The importance of facial expressions for the child has been emphasized by Bossard and Boll (1966). Such expressions communicate "Not only moods, but ideas and commands..." (p. 153). They suggest that the parent has a 'facial personality' and this is the first parental personality that the child knows (p. 153).

Children have demonstrated an ability to decode the emotional meanings of messages. Dimitrovsky (1964) tested five to twelve year old children in their ability to identify the meanings of emotional expressions of both male and female speakers, by matching them with stick-figure drawings conveying these emotions. Results showed a progressive increase with age in the ability to identify the

emotional meaning. These were strange voices and artificial, stick figures; it seems possible that even greater accuracy would be found with familiar voices and more realistic figures.

Non-verbal communication in parent-child and family interaction has also been investigated. Such communication, which may be a refined automatic system within a society is used by the infant as his only mode of communication. Body movements, facial expressions, gestures and crying all serve to communicate messages. These messages originally convey needs, but later become social in nature. Bossard and Boll (1966) suggest that such 'sensory' interaction plays an important role in the young child's life "...both because of the continuing emotional relationship between parent and child and also because of the child's lack of linguistic equipment for the first years." (p. 60). Thus, in parent-child interaction, it would seem that non-verbal communication is especially important.

The non-verbal dimension in family interactions was investigated by Schuman and Freshley (1971). They were concerned with the relevance of non-verbal interactional data as a variable when assessing family interactions. Scoring of taped interactions was done under two conditions: verbal, and verbal plus non-verbal. The results showed that when non-verbal information was included in the scoring, the interaction picture showed increases in negative affective activity. Thus activities classified as instrumental under

the verbal condition (e.g. gives information or opinion) tended to be reclassified as negative tension indicators (shows tension or disagreement). Thus the non-verbal communication added to or changed the message.

A study by Bugental, Love and Gianetto (1971) was concerned with parents' verbal and non-verbal behaviour (smiling) when interacting with their children. Families were videotaped during face-to-face discussion and during a problem-definition period. The results showed a significant interaction between parent sex and facial expression. That is, fathers made more positive statements when smiling than when not smiling, whereas mothers were indiscriminate in their use of smiles with positive and negative messages. This suggests that fathers explicitly do use non-verbal communication in transmitting messages to their children.

Hore (1968) investigated non-verbal communication in mother-child interaction. In his study, mother-child pairs from two socioeconomic (SES) levels were asked to perform different tasks. The results suggested that a high level of verbal communication is correlated with a greater use of non-verbal behaviour. This concurs with the hypothesis of an interdependence existing between the content and message aspects of a communication (e.g. Ruesch and Kees, 1966).

The results further indicated that more mutual glancing occurred in the high SES pairs. High SES mothers also showed more unreciprocated glances, indicating a 'readiness to respond' (p. 49). Hore speculated that this behaviour

was indicative of help-giving behaviour, suggesting a general behavioural orientation which may be conveyed non-verbally.

Another dimension of non-verbal behaviour, that of physical contact, correlated negatively with the mother's verbal measure. Hore speculated that this was indicative of differences in methods of behavioural control.

Brady (1969) also investigated non-verbal communication in mother-child dyads. The dimension of maternal control was varied in this study, and related to non-verbal behaviour and the child's cognitive behaviour. Mutual glancing behaviour was used as an indicator of warmth. Results indicated that controlling mothers spent less time engaged in mutual glancing behaviour. Further support also was found for Hore's (1968) suggestion that unreciprocated glances by the mother relate to help-giving behaviour.

Thus there is sufficient evidence that the non-verbal channel is an essential part of communication. The form that such communication takes appears to be indicative of attitudes and feelings within the relationship. Within the family unit, non-verbal communication has been suggested to be particularly important (Bossard and Boll, 1966). Empirical evidence from Hore (1968) and Brady (1969) supports this suggestion for mother-child dyads. Similar non-verbal dimensions should be important in father-child interaction.

Fathering and Father-child interaction

The father-child relationship has received little attention from researchers (Nash, 1965; Tari, 1971). Most studies have been concerned with the effect of father-absence on the child's development. Generally, the results of these studies indicate that father-absence correlates with significant differences in the child's socio-emotional development (Hetherington, 1973, Andry, 1960; Lynn and Sawrey, 1959; Stolz, 1954; Sears, 1951). This suggests that father-child interaction contributes to the healthy development of the child.

What, then, is the role of the father? There is little empirical data by which to attempt to answer this question. Studies of the North American family have indicated that the father is more involved in child care and domestic routines than previously. Concomitant with this increased family participation is some lessening of the traditional status of the father as the dominant figure, with unquestioned authority and disciplinary power (Benedek, 1970; Bossard and Boll, 1966).

Theoretically, it has been suggested that the father's role is instrumental-adaptive (Parsons and Bales, 1955), or effective (Van Mannen, 1968). Thus, it is through interaction with the father that the child develops instrumental skills and the ability to adapt to the environment (Parsons and Bales, 1955). Van Mannen (1968) suggests that the child's recognition of this role is reflected in respect

and prestige for the father. Meerlo (1968) sees the father as '...a bridge to the vast world outside' (p. 102). It is the father who endows the child with realism, as opposed to the mother's nurturant, protective role.

A few studies have attempted to discover how the father himself sees his role. The results of these studies suggest that the father perceives himself as an involved member in the child-rearing process. Tasch (1952) reported that the fathers saw their role most frequently as that of guide and teacher, and this was exemplified through instructional activities, methods of child rearing and discipline. Companionship with the child was perceived by fathers as an important aspect of their role. Newson and Newson (1963) looking at patterns of infant care in different social classes in England found that a majority of fathers were involved in child care and expected to be involved.

A more direct investigation of role behaviour was done by Kohn (1959). He examined the father's disciplinary role in a study of parental authority. He found that the conditions under which mothers physically punished their children also applied to fathers. Bronson, Katten and Livson (1959) investigated parents' use of affection and exercise of authority with their children. They found no differences in role behaviour in the giving of affection. However, significantly more mothers than fathers were rated high in authority. Paternal authority and discipline, then,

may not be a major role description. Rather, authority is a shared responsibility and describes both maternal and paternal role behaviours.

Children's perceptions of the paternal role and behaviour also give some impression of the father's role. Gardner (1947) questioned 10-12 year old children on their attitudes to their parents. The father's bossiness was mentioned by a large number of children and 40 per cent of them said they wished their fathers would show more love. The father was the preferred parent one in seven times, whereas the mother was preferred one in three times. The mother was chosen to get help from twice as often as the father; the father was preferred only when the help required repairs or a request for money.

Kagan (1956) interviewed children aged three to eight and concluded fathers were seen as less friendly, and more dominant, punitive and threatening than mothers. Kagan and Lemkin (1960), using individual tests with children three to eight obtained similar results. When the child was presented with a situation where he needed or received assistance, strength or protection, the father was chosen more frequently as the agent of assistance. The mother in contrast was seen as the agent for nurturant activities. Emmerich (1961) found that children aged six to ten perceive fathers as being the more powerful parent (this perception tended to diminish with increasing age).

Dubin and Dubin (1965) suggest that a critical factor

in this characterization of the father, with a concomitant preference for the mother is the nurturant role of the mother conveyed by acts with '...warm and satisfying connotations' (p. 822). It is not the father's behaviour alone perhaps, but the comparison with the mother's behaviour which influences the perceptions of children.

Jackson (1956) studied this cultural stereotype of the punitive father and warm mother. He used projective techniques to get information about parental controlling behaviours. He found contrary evidence to the stereotype in that mothers more frequently used extreme punitive or aggressive methods of control.

Despite the paucity of data on paternal behaviours, it would seem profitable to investigate the father-child relationship for possible influence of the father's behaviour on the child's behaviour and development. Several such studies have been done.

Hellbrun, Harrel and Gillard (1967) investigated the relationship between girls' cognitive proficiency in a complex task under socially reinforced conditions, and the perceived childrearing attributes of the fathers. Their results suggested that for girls, perceived rejection by the father had a greater influence upon cognitive affectiveness, in the limited conditions given above, than did maternal rejection.

Van Mannen (1968) investigated the relationship between different aspects of parental roles and the social

adaptation or deviance shown by their children. Affective, dominant and effective (instrumental) role behaviours were examined. The results indicated that the father's effective role had greater impact for socialization potential in the child than did the mother's effective role. The impact of the mother's and father's effective roles did not differ in relationship to the child's deviant behaviour. The results indicated, however, that the mother's affective role had more consequence for deviance than did the father's role, suggesting that the same parental role behaviour can have different consequences for the child.

Rosen and D'Andrade (1959) explored the relationship between boys' tested level of achievement motivation and the parent's behaviour when interacting with the child. The boys, aged nine to eleven were required to do five tasks. These tasks were designed to involve the parents in their son's task performance. Differences were found in the fathers' behaviour for different levels of achievement motivation. Fathers of boys with a high achievement motivation tended to give the boy a greater degree of autonomy in making decisions. They also demonstrated more positive affect and less rejecting (negative affect) behaviours. This was in comparison to the fathers of boys with low achievement motivation, who were more dominating and more rejecting. They generally displayed less than average warmth in their behaviour.

Recent studies have observed actual interaction

between parents and children. Bee (1967) observed parents' interaction with distractible and non-distractible children in problem-solving tasks. Fathers and mothers differed in their behaviours, most notably in reinforcing the child. Both fathers and mothers of non-distractible children showed greater encouragement of and reinforcement of task persistence. There were no significant differences, however, between the two groups of fathers in their use of negative encouragement. This was not found with the mothers.

Osofsky and Oldfield (1971) observed parents interacting with their daughters, aged four to six, in two task situations - one emphasizing independent behaviour and one emphasizing dependent behaviour. Two significant differences between mother's and father's behaviour were noted. Fathers but not mothers positively reinforced their daughters more when they acted dependently than independently. Both parents were more controlling when the child behaved dependently; however, fathers were significantly less controlling than mothers. This suggests basic differences in the way parents respond to and interact with their children.

The study by Bugental, Love and Gianetto (1971) may be mentioned again. The investigators found that fathers made more positive statements when smiling than when not smiling. For mothers, no differences were observed in the types of statements made when smiling or not smiling.

Tari (1971) studied the father-child dyad, focusing on

the relationship between dimensions of fathering and children's level of achievement motivation (as measured by test performance). Children aged five to six were required to perform three tasks, with the father in the role of 'experimenter'; he was required to explain and present the tasks. The fathers' behaviour was observed *in toto*. Behaviours were assessed on the basis of the father's predominant mode of relating to the child during the experiment. Each father was assigned to a group representing the following dimensions: maturity demands, communication, control and nurturance. Tari's results showed that there were significant differences in children's level of achievement motivation which corresponded to the father's predominant mode of relating to the child. The dimension of maturity demands was associated with the highest level of achievement motivation; nurturance was also positively correlated with the child's level of achievement motivation. These results suggest that the father's behaviour when interacting with the child is associated with aspects of the child's development.

To summarize, the role of the father in his child's development, as presented in psychological and sociological literature, lacks any consistent formulation. Although descriptions of family processes occasionally include the father as an important (but secondary) person, few researchers have investigated this. Descriptions of fathering behaviours are negligible, as are data on paternal child-

rearing practices. Power and punitiveness are ascribed to fathers by their children, and the relationship seen as less warm than with the mother. Recent research which has investigated fathers' interaction with their children, suggests that this perception is based on different parental behaviours which occur because of different role prescriptions. In these studies there is some consistency in the results pertaining to the use of reinforcement by the father. Positive reinforcement appears to be used for specific behaviours, whereas negative reinforcement is not used with any frequency. Mothers appear to be more diffuse in their use of reinforcement. If parental roles differ, with the mother's stressing nurturant behaviour and the father's focusing on instrumental behaviour, one may expect that the father has to be more discriminating in his use of reinforcement.

Overall, the father is a neglected figure in the study of child development. The research on the father-child relationship is limited; but the available studies suggest that this relationship is important and has definite influence in the child's socio-emotional development.

The literature reveiw indicates the possibly influential, but as yet little investigated, role of non-verbal behaviour in family interaction. Those studies which have been reported usually focus only on the mother, ignoring the father's influence.

This study, then, is an attempt to look at these

neglected areas by investigating non-verbal communication behaviours used by fathers and their children. The results from Tari's (1971) investigation were used to examine fathers' differential use of non-verbal behaviours. Tari (1971) studied father-child interaction and assessed fathers on four dimensions of fathering. The assessment utilized a structured observation method. All behaviours which a father displayed in interacting with his child were used to determine the father's predominant mode of relating to his child. Non-verbal behaviour was a component behaviour of each dimension, and as such was not isolated and examined independently of other behaviours.

In the present study the non-verbal component was studied. Briefly, certain non-verbal behaviours were selected and their occurrence scored within father-child interaction. The non-verbal behaviours occurring in each mode were investigated, first, to see if there was quantitatively different usage. To further examine the differential use of these behaviours, their relationship within each mode was also studied.

CHAPTER III

HYPOTHESES AND DEFINITIONS

Hypotheses

Two hypotheses were developed.

1. There will be significant differences in the quantitative use of non-verbal communication behaviours for the different kinds of fathering, i.e. Maturity Demands, Communication, Control and Nurturance (for definitions, see Appendix I). The non-verbal behaviours are: mutual glance, father-child glance, child-father glance, mutual smile, father-child smile, child-father smile, physical contact - control and physical contact - nurturant (for definitions, see pp. 25-26).

Research has suggested that there are differences in amount of non-verbal behaviour with differences in affect (Freidman, 1967; Exline and Winters, 1966; Ekman, 1965). Hore (1968) suggested that in mother-child dyads high levels of verbal communication are correlated with more use of non-verbal behaviour. Help-giving behaviours and methods of behavioural control also were found to correlate with verbal measures (Hore, 1968; Brady, 1969). Thus, when fathers are categorized for different dimensions of fathering concomitant differences in non-verbal behavioural measures should be observed.

2. There will be significant differences among the four

fathering modes in the relative use of non-verbal behaviours.

Osofsky and Oldfield (1971) observed differences in paternal behaviour when the child displayed dependent or independent behaviours. Rosen and D'Andrade (1959) found differences in paternal use of positive and negative affective behaviours for different levels of achievement motivation in the child. Bugental, Love and Gianetto (1971) investigated father-child interaction and found that for fathers smiling was related to positive verbal statements. With differences in the way of relating to the child then, differential use of non-verbal behaviours should be observed.

Definitions

For this study, several non-verbal behaviours were identified. In defining these behaviours the message that they convey (e.g. information regarding the task) was not specified. Such an approach would provide valuable information; it was not the primary concern in this study, however. Ekman (1965) distinguishes between two approaches in studying interactive non-verbal behaviour: the indicative and the communicative. In the former, the concern is with the relationship between a non-verbal act and some other class of events and "...tell us nothing directly about whether a receiver can decode any systematic information." (p. 392). With a communicative approach, the aim is to discover what information a non-verbal act provides. This approach is investigated experimentally by

having receivers determine how much they agree on their observation or inferences about what a non-verbal act signifies.

The present study was concerned with the indicative aspect of non-verbal communication. The functional value of a gesture therefore was not examined, but rather the relationship of the gesture to other behavioural dimensions (modes of fathering). This was seen as a necessary first step in examining non-verbal communication between a father and child.

The following terms were used, as defined, to identify non-verbal behaviours.

Mutual glance: a look by one member of the dyad, which was reciprocated by the other, requiring direct eye-to-eye contact.

Father-child glance: a look by the father, to his child, which was not reciprocated.

Child-father glance: a look by the child to the father which was not reciprocated.

Mutual smile: a smile by one member of the dyad reciprocated by the other, requiring eye contact.

Father-child smile: a smile from the father to his child, which was not returned.

Child-father smile: a smile from the child to the father, which was not returned.

Physical contact: control: touching of the child by the father, which resulted in some

change in the child's ongoing behaviour.

Physical contact: nurturant: touching of the child by the father, in a gesture of affection.

CHAPTER IV

METHOD

Subjects

The subjects were originally sampled by Tari (1971). There were 46 father-child dyads, who had been videotaped in a previous experimental situation. The subjects were representative of a middle socioeconomic status. Although mothers were not directly involved in the study, children whose mothers had 'extreme' scores on the Parent Attitude Research Instrument, (Schaeffer and Bell, 1958) were excluded.

The children ranged in age from four years, ten months to five years, eleven months. They were of average intelligence. Both boys and girls were included; they were in all cases the oldest sibling.

The fathers had previously been categorized into one of four dominant modes of fathering. The assignment of fathers was based on scores obtained by using a Structured Observation method during a task session.

Apparatus

The instrument used by Tari (1971) to categorize the fathers was the Home Visit Sequence Analysis (H.V.S.A.). This was originally developed by Baumrind (1961), and adapted for the study by Tari (1971).

The H.V.S.A. measured four dimensions of parental

behaviour identified as: maturity demands, control, communication and nurturance. The fathers' behaviour was assessed in two situations: during a home visit and during a structured experiment. The scores obtained in the latter situation were used to categorize fathers into the four groups of 'fathering'.

The Autonomous Achievement Motivation Test (A.A.M.T.) was devised by Veroff (1969) to examine a child's behaviour in risk-taking situations. It was used by Tari (1971) to measure level of achievement motivation. The child is required to perform a series of tasks measuring different skills. Within each task, the items progressively increase in difficulty. After failing two items, the child is given the opportunity to repeat one item; either one he was successful with or one he failed. His choice, according to Veroff (1969) reflects achievement strivings.

In Tari's (1971) research, three tasks were used. These were: Visual Memory Task, Picture Memory Task and Drawing Task.

The Parent Attitude Research Instrument (P.A.R.I.) is a scale developed by Schaeffer and Bell (1958). It was used by Tari (1971) as a control to eliminate extremes in maternal child-rearing attitudes.

In the present study, the videotapes from Tari's (1971) research were used. The videomachine employed was a Sony Videocorder AV-3600, with a fully automatic recording of picture and sound. The television used to view the tapes

was an Electrohome EVM-23 with a 21" screen. The machine was equipped with a 'pause' selection which permitted a still picture, for close observation.

Procedure

The experimental procedure followed by Tarl (1971) is given to clarify the task situation.

The child was first allowed to explore and play with the toys used as distracting stimuli. The father was given verbal instructions regarding his task; he was also given written verbatim instruction for all tasks involved in the study. The father was told that he was the experimenter and his child the subject. He was asked to study the instructions until he understood the tasks involved and was encouraged to begin on his own when he was ready. The father was then left alone with the child.

For the present study, the above sequence was observed on videotape for each father-child dyad. The tapes were viewed without the audio component.

The tapes were viewed in a random order. The non-verbal behaviours which were scored had been previously decided. The behaviours were scored as they were observed. The tape was stopped when a non-verbal behaviour occurred and the behaviour appropriately scored. (In some cases the frequency of behaviours in a short time interval did not permit stopping the tape).

Scoring of non-verbal behaviours was done for the total experimental session. The scoring was further broken down

into three units corresponding to the three tasks which the child did during the session. Between-task activity was scored with the task immediately preceding it.

The categories to which the fathers had been previously assigned were not known to the scorer until all scoring had been completed.

One scorer coded all father-child dyads. A reliability check was done by having a second scorer also code five father-child dyads.

Reliability Check

To obtain some measure of the primary scorer's scoring reliability, a second scorer coded five father-child dyads. This scorer first was trained by coding a dyad simultaneously with the primary scorer and discussing differences in interpretation of the definitions of non-verbal behaviours.

Since the data submitted to a reliability check were only 10% of the total, no statistical measures were used to determine reliability. Instead, an arbitrary number was assigned as a permissable difference between two scoring protocols on each measure. Each measure was then rated as 'agree' or 'disagree'.

Using this method, the following ratings were obtained.

	AGREE	DISAGREE
mutual glance	5/5	0/5
father-child glance	3/5	2/5
child-father glance	4/5	1/5 (N=5)

	AGREE	DISAGREE
mutual smile	4/5	1/5
father-child smile	5/5	0/5
child-father smile	5/5	0/5
physical contact - control	5/5	0/5
physical contact - nurturant	5/5	0/5

Analyses

To test the hypotheses that significant differences existed in the use of non-verbal communication behaviours for the different modes of fathering, one way analyses of variance tests were employed. The Scheffé method was to be used to test the significance of differences between means for each behaviour.

Within each fathering mode, correlations among the eight non-verbal behaviours were computed. To test the degree of relationship among these behaviours, tests of significance of correlation coefficients were used.

CHAPTER V

RESULTS

The general hypothesis of this investigation stated that a significant difference existed in the use of each of the non-verbal behaviours for the four different fathering modes. This was tested by one-way analysis of variance tests. The level of significance was set at .05.

Summary tables of the analysis of variance for each non-verbal behaviour are presented below.

TABLE I

ANOVA SUMMARY TABLE

OF MUTUAL GLANCING BEHAVIOUR

Source of variation	D.F.	S.S.	M.S.	F.
Between	3	3697.250	1232.416	.9684
Within	42	53448.875	1272.592	

Decision: p = n.s. (critical F value = 2.83)

: do not reject null hypothesis of no difference in mutual galances among four modes of fathering.

TABLE II

ANOVA SUMMARY TABLE

OF FATHER-CHILD GLANCE

Source of Variation	D.F.	S.S.	M.S.	F.
Between	3	1381.3125	460.4375	.3425
Within	42	56451.1875	1344.0756	

Decision: p = n.s. (critical F value = 2.83)

: do not reject null hypothesis of no difference in father-child glances among four modes of fathering.

TABLE III

ANOVA SUMMARY TABLE

OF CHILD-FATHER GLANCE

Source of Variation	D.F.	S.S.	M.S.	F.
Between	3	1225.3046	408.4348	1.0925
Within	42	15701.0664	373.8347	

Decision: p = n.s. (critical F value = 2.83)

: do not reject null hypothesis of no difference in child-father glances among four modes of fathering.

TABLE IV

ANOVA SUMMARY TABLE

OF MUTUAL SMILE

Source of Variation	D.F.	S.S.	M.S.	F.
Between	3	58.4335	19.4778	.2004
Within	42	4080.8945	97.1641	

Decision: p = n.s. (critical F value = 2.83)

: do not reject null hypothesis of no difference in mutual smile among four modes of fathering.

TABLE V

ANOVA SUMMARY TABLE

OF FATHER-CHILD SMILE

Source of Variation	D.F.	S.S.	M.S.	F.
Between	3	188.7172	62.9057	1.2142
Within	42	2175.8916	51.8069	

Decision: p = n.s. (critical F value = 2.83)

: do not reject null hypothesis of no difference in father-child smile among four modes of fathering.

TABLE VI

ANOVA SUMMARY TABLE

OF CHILD-FATHER SMILE

Source of Variation	D.F.	S.S.	M.S.	F.
Between	3	756.8750	252.2916	1.4805
Within	42	7157.0625	170.4062	

Decision: p = n.s. (critical F value = 2.83)

: do not reject null hypothesis of no difference in child-father smile among four modes of fathering.

TABLE VII

ANOVA SUMMARY TABLE

OF PHYSICAL CONTACT - CONTROL

Source of Variation	D.F.	S.S.	M.S.	F.
Between	3	102.5668	34.1889	.9262
Within	42	1550.2375	36.9104	

Decision: p = n.s. (critical F value = 2.83)

: do not reject null hypothesis of no difference in physical contact - control among four modes of fathering.

TABLE VIII

ANOVA SUMMARY TABLE

OF PHYSICAL CONTACT - NURTURANT

Source of Variation	D.F.	S.S.	M.S.	F.
Between	3	27.0579	9.0193	2.7946
Within	42	135.5507	3.2273	

Decision: p = n.s. (critical F value = 2.83)

: do not reject null hypothesis of no difference in physical contact - nurturant among four modes of fathering.

Since no significant results were obtained in the analyses of variance, the Scheffé test could not be utilized.

Correlations were computed for the eight non-verbal behaviours within each fathering mode. T-tests of significance were used to determine if significant relationships existed between behaviours. The level of significance was set at .05.

The correlations among behaviours are presented below.

TABLE IX

CORRELATIONS AMONG NON-VERBAL BEHAVIOURS IN FATHERING DIMENSION OF MATURITY DEMANDS

N = 14

	MG	FCG	CFG	MS	FCS	CFS	PCC	PCN
MG	1.00	.18	.44	<u>.60</u>	.25	.40	<u>.55</u>	.05
FCG		1.00	-.07	.12	.39	-.02	.14	-.12
CFG			1.00	-.03	-.14	<u>.60</u>	<u>.54</u>	.34
MS				1.00	.49	.24	.06	.29
FCS					1.00	-.15	-.03	.28
CFS						1.00	.36	.53
PCC							1.00	-.17
PCN								1.00

Using the t-test with a t value of 2.18 ($t_{0.975(12)}$) certain relationships within the maturity demands mode were significant. These are underlined in Table IX.

TABLE X

CORRELATIONS AMONG NON-VERBAL BEHAVIOURS IN FATHERING DIMENSION OF CONTROL

N = 9

	MG	FCG	CFG	MS	FCS	CFS	PCC	PCN
MG	1.00	.47	<u>.86</u>	<u>.93</u>	.41	<u>.81</u>	.33	-.01
FCG		1.00	.58	.59	<u>.79</u>	.28	.36	-.35
CFG			1.00	<u>.79</u>	.48	<u>.85</u>	-.04	-.40
MS				1.00	.45	<u>.72</u>	.51	.17
FCS					1.00	.12	.18	-.43
CFS						1.00	-.09	-.11
PCC							1.00	.62
PCN								1.00

$t_{0.975(7)} = 2.365$. Significant correlations underlined.

TABLE XI

CORRELATIONS AMONG NON-VERBAL BEHAVIOURS IN FATHERING DIMENSION OF COMMUNICATION

N = 10

	MG	FCG	CFG	MS	FCS	CFS	PCC	PCN
MG	1.00	-.21	.29	<u>.89</u>	<u>.82</u>	-.09	.07	-.11
FCG		1.00	-.51	-.17	-.32	-.01	.55	.31
CFG			1.00	.32	.37	-.20	-.28	-.50
MS				1.00	<u>.88</u>	.05	.01	.03
FCS					1.00	.24	-.14	-.00
CFS						1.00	.21	-.26
PCC							1.00	-.03
PCN								1.00

$t_{0.975(8)} = 2.31$. Significant correlations underlined.

TABLE XII

CORRELATIONS AMONG NON-VERBAL BEHAVIOURS IN FATHERING DIMENSION OF NURTURANCE

N = 13

	MG	FCG	CFG	MS	FCS	CFS	PCC	PCN
MG	1.00	.34	.45	.46	-.27	<u>.79</u>	.29	<u>.68</u>
FCG		1.00	-.25	-.09	.33	.36	<u>.79</u>	-.01
CFG			1.00	.48	-.42	.49	.08	.47
MS				1.00	.07	.36	-.00	.53
FCS					1.00	-.49	.32	-.13
CFS						1.00	.39	.24
PCC							1.00	-.15
PCN								1.00

$t_{0.975(11)} = 2.201$. Significant correlations underlined.

A summary table of the significant correlations for all four fathering modes is presented below.

TABLE XIII

SIGNIFICANT CORRELATIONS BETWEEN

NON-VERBAL BEHAVIOURS IN ALL

FATHERING MODES

Maturity	mutual glance	mutual smile*
	child-father glance	child-father smile*
Demands	physical contact - control	mutual glance
	physical contact - control	child-father glance
Control	mutual glance	mutual smile*
	father-child glance	father-child smile
	child-father glance	child-father smile*
	child-father glance	mutual glance
	child-father smile	mutual smile
	child-father smile	mutual glance*
	child-father glance	mutual smile
Communication	mutual glance	mutual smile*
	father-child smile	mutual glance
	father-child smile	mutual smile

Continued...

Nurturance	child-father smile	mutual glance*
	physical contact - nurturant	mutual glance
	physical contact - control	father-child glance

* same relationship in more than one fathering mode.

The greatest number of significant correlations is found within the control mode. The least number is in the nurturance mode. The control mode, in fact, has twice as many correlations as any other mode.

A relationship between mutual glancing and mutual smiling is observed in three fathering modes: maturity demands, control and communication.

It can be seen, within the control mode, that all one-way interaction behaviours which have significant correlation are from child to father.

Within the control and communication modes, an interesting reversal occurs. In the control mode the relationships

child-father smile - mutual glance
child-father smile - mutual smile

were observed. In the communication mode the relationships

father-child smile - mutual glance
father-child smile - mutual smile

were observed. Thus it appears that the individual in the dyad who initiates the non-verbal behaviours differs in the modes of control and communication.

A similar reversal is found in the two modes where a significant correlation with physical contact - control exists. Thus, in the maturity demands mode:

physical contact - control correlates with

child-father glance

and in the nurturance mode:

physical contact correlates with father-child

glance.

No negative correlations were significant. However, several approached significance. In the communication mode two correlations approached significance. These were:

child-father glance - father-child glance
child-father glance - physical contact - nurturant

In the nurturance mode, the negative correlation between father-child smile and child-father smile approached significance. A negative correlation between these two behaviours is unexpected. In consideration of the behavioural variables which constitute this mode, one would anticipate a positive relationship.

CHAPTER VI

DISCUSSION

The first hypothesis of this study stated that there would be differences in the use of non-verbal communication behaviours for the different modes of fathering. As shown by the analyses of variance this hypothesis was not supported.

The possibility of differences was based on previous research which suggested correlations between certain verbal and non-verbal behaviours.

In discussing the failure to find differences, one may first look at the variables which define the different fathering modes (c.f. Appendix I).

From a review of these variables it seems probable that the use of non-verbal behaviours with different behavioural variables would occur. Thus reinforcement (variable i) and nurturing behaviour (variable m) may both utilize smiling behaviours, but with different implications. Similarly, help-giving behaviour may occur with variable e (control sequences in which the child complies) and variable j (using verbal reasoning to obtain compliance). The same non-verbal behaviour (glancing) may be used in both situations.

The function of the behaviour, which was not investigated in the present study, may then, account for the lack

of differences in the quantity of non-verbal behaviour. Kendon's (1967) hypothesis regarding the functions of gaze direction seems applicable here. The monitoring, regulating and expressive functions potentially were all being used in the father to child glancing behaviours. The message that the behaviour conveyed would then be the differentiating factor, not the behaviour itself. The same functional differentiation would be applicable with the other non-verbal behaviours.

Tari (1971) in discussing his results suggested factors which may have relevance for the present results. Tari found that certain variables across fathering dimensions frequently functioned together. Specifically, within maturity demands and nurturance, fathers who belonged to the nurturance mode often attempted through reinforcement methods to train independence. Fathers who were primarily within the control mode tended to utilize behaviours from other dimensions to obtain compliance. Tari noted that the paternal dimensions of communication and control were often interchanged as the primary mode. Because of the quantity of non-verbal behaviours that were emitted, one can readily see that a proportion of the behaviours would be associated with different modes. This would increase the variability and could result in some 'contamination' of the use of non-verbal behaviours within a fathering dimension.

Although there were no significant results, several trends emerged which are consistent with previous research.

Father-to-child smiles were most frequent within the nurturance mode. In the definition of nurturing behaviours the child's requests for support and affection are relevant. Positive response to such dependency behaviours was noted by Osofsky and Oldfield (1971). In that study, fathers positively reinforced their daughters more when they acted dependently than independently. The present data suggests a similar trend with positive reinforcement (smiling) being most frequent within the nurturance mode.

The use of mutual gazing was least frequent within the maturity demands mode. Kendon (1967) suggested that mutual gazing is instrumental in regulating the level of shared emotional arousal. Brady (1969) hypothesised that in mother-child dyads mutual glancing is an indication of warmth. Behaviours within maturity demands involve independence training and granting - including the transmission of factual knowledge, decision-making by the child, etc. One may speculate that in this situation, the father's instrumental role is being emphasized over more supportive behaviours. Tari (1971) suggests an ontogenetic paradigm in which one would proceed from early independence training to independence granting. It is through independence granting that a child becomes increasingly self-reliant (p. 78). However, within the dimension of maturity demands nurturance is a low but consistently present dimension, acting as the base of the relationship between the father and child (p. 88).

Given this characterization of the fathering dimension, one may anticipate that the level of shared emotion in the interaction would most likely be steady and consistent, thus not requiring much regulation through mutual gazing. This would be in line with Kendon's (1967) suggestions. When independence granting is the predominant variable used, the father-child interaction would emphasise independent action. Mutual glancing, as a supportive behaviour, would not be as necessary in the interaction and would therefore occur less frequently, as found in this study.

Mutual gazing, then, in father-child interaction, appears to be indicative of the dependency in the relationship. Brady (1969) used mutual glancing as an indicator of warmth in mother-child interaction. Thus, it seems probable that the same non-verbal behaviour is used for different functions in father-child and mother-child interaction.

The second purpose of this study was to examine the relationship of non-verbal behaviours within each mode, with the expectation that differences would emerge. Such differences did occur and consequently the secondary hypothesis was supported.

Interpretation of the relationships between non-verbal behaviours must be necessarily cautious. The correlation demonstrates only that a relationship exists between the occurrence of one behaviour and another. Within the overall

pattern of correlations within a mode, one may speculate as to the sequence of occurrence of these behaviours. Confirmation of such speculation would require minute analyses of an ongoing behavioural unit, with each behaviour coded as to preceding and succeeding behaviours.

For three of the groups, a significant correlation between mutual glancing and mutual smiling was observed. These were the maturity demands, control and communication modes. This suggests that there is a specific 'pacing' of these mutual behaviours when the father and child are interacting. This 'pacing' may be similar to Kendon's (1967) results from which he hypothesised that there is an optimum level of shared emotional arousal, regulated in part by mutual glancing. Smiling may further regulate or maintain this level. (In the present study, concomitant increases in mutual glances and smiles were observed. Kendon's subjects showed an opposite pattern - however, his data was measured in time not quantity, therefore not really comparable.)

It is interesting that a relationship was not observed within the nurturance mode. Given the behavioural variables within this mode, it would seem possible that there would be a less discriminate regulating of the affective component of the relationship; hence no statistical correlation.

The fact that the control mode showed the greatest number of relationships between non-verbal behaviours

would suggest that non-verbal communication is used more explicitly within this mode. Smiling and glancing behaviour was correlated for the members of the dyad individually and together. The variables constituting this fathering mode include behaviours evoking compliance from the child and the use of incentive and reinforcement. Fathers who employ such behaviours may use the glancing - smiling behaviour in a regulating - reinforcing paradigm.

Four correlations within this mode were between a mutual behaviour and a child-to-father behaviour. This is possibly indicative of the child's attempts to obtain behavioural direction and also to maximize his reinforcements. Exline and Messick (1967) suggested that eye contact may be used by dependent individuals to communicate positive attitudes and to elicit such attitudes when not forthcoming. Because of the enforcing, influential aspect of controlling fathers, one would first anticipate some dependency in the child (this is supported by Tari's (1971) data with these children displaying a lower level of achievement motivation). Eye contact (glances) and smiles may both be used by these children to transmit and obtain positive attention. Thus the child would be initiating such behaviours, their extent dependent on the feedback from the father. Consequently, there would be a relationship between a mutual behaviour and a child-to-father behaviour as found in the present results.

Within the communication mode, mutual glances and

mutual smiles both correlated with father-child smiles. (This contrasts with the control mode in which the mutual behaviours correlated with child-father smiles.) The use of verbal reasoning as a control technique within the communication mode would perhaps foster the use of smiles, in conjunction with glances, in efforts to obtain compliance. It would have been valuable in this case to know what the verbal messages were, to see how they related in content with the smiles.

In the communication mode a negative correlation which approached significance was observed between father-child glancing behaviour and child-father glancing behaviour. (It is interesting to note too that the mean scores for these two behaviours were respectively, the highest and lowest amongst the four modes.) It would seem that the child withdraws from interaction with his father, as the father increases his use of power or reason and concomitantly increases his use of glances. This was apparent when viewing the videotapes. Some fathers were constantly talking to the child, along with smiling and glancing. Frequently the child appeared overwhelmed by the father's behaviours and tended to sit quietly without interacting during a period of talking by the father.

This negative correlation is not consistent with research findings on eye contact which have found that the subject spends more time looking when listening than when speaking. If this were the case in the present study, one

would not expect a negative correlation, (assuming the fathers' glances were paired with verbal messages). The different ages and status of the two individuals may be relevant for this result, since previous research generally has equated these two variables. The actual content or tone of the verbal messages may also be a relevant factor.

The use of physical contact - nurturant correlated with mutual glances in the nurturance mode. The use of physical contact to express warmth is a component of this fathering mode. Its correlation with mutual glances provides further evidence of how such warmth is transmitted. Seemingly some shared expression of affection is further reinforced by the father with a gesture of affection.

A negative correlation which approached significance was observed within this mode. This relationship was between father-child smiles and child-father smiles. The number of unreciprocated smiles by the child tended to increase as the father's unreciprocated smiles decreased in number. This could be interpreted as an attempt by the child to maintain or encourage the father's involvement and to ensure that the father shows warmth during the interaction. It would appear that the child needs the reassurance of the positive interaction with his father and if it is not forthcoming he attempts to foster it. The fathers may also have been attempting to train independence; the decreased number of smiles would be indicative of attempts to develop the child's ability to act independently. The

child, in response to this, would perhaps try to maintain the dependency; smiling more frequently would be a way of communicating this to the father.

These non-verbal behaviours then, within an interaction appear to convey certain messages and attitudes between the father and child. Within the complex of behaviours which constitutes a fathering dimension the non-verbal behaviours restate and reinforce the father's mode of relating to the child and the child's response to this.

It would seem profitable now to discuss some of the difficulties with the method used in the present study and to suggest some alternative forms. This will be the concern of the remainder of the discussion.

First, the selection of non-verbal behaviours could be modified. Kendon (1967) found variations in the length of mutual gazes and suggested gazes of different durations had different functions. Such an approach in father-child mutual gazes would have provided more information about the role and differentiation of the behaviour in the interaction. Other non-verbal behaviours could similarly be coded as to duration.

Another modification in the selection of behaviours which may have differentiated non-verbal modes more would be to use 'negative' behaviours, such as frowns, grimaces, etc. The behavioural variables used by Tari (1971) place some emphasis on the independence - compliance distinction, and also on the use of reinforcing behaviours. It is

possible that the use of negative non-verbal behaviours with certain of these behaviours would be more readily distinguishable within fathering modes and thus more clearly differentiate non-verbal behaviour patterns.

Different coding techniques could also be employed. As mentioned earlier, coding non-verbal behaviours within the behavioural sequences originally coded by Tari (1971) may be useful. For example, a sequence coded by Tari as variable 'a' in the maturity demands mode, would be coded subsequently for the non-verbal behaviour. The next sequence originally coded would likewise be coded for non-verbal behaviours. In this way, those non-verbal behaviours which occur only during the behavioural sequences of a particular fathering mode could be examined. In the present study this was not done; non-verbal behaviours were being coded for one mode with variables from different fathering dimensions (e.g. control and communication). Although some overall pattern of non-verbal behaviours may have emerged from the type of coding used in the present study (in as much as fathering dimensions were distinguishable from total behaviour) it may also be that the non-verbal behaviours are more generally used in all situations. Thus, to distinguish pattern of non-verbal behaviour, a refined coding process would be necessary.

Perhaps a more fruitful method of data collection than either that used in the present study, or that suggested above, would be to code sequentially the behaviours

occurring in an interaction. For example, a smile by a father may be reciprocated by the child in one case; in another the child may respond to the father's smile by glancing. It is suggested by the present writer that this would provide the most information as to the presence and use of non-verbal behaviours in an interaction. One would have a continuous summary of the occurrence of a behaviour and the response or lack of response to it. This could differentiate patterns of behaviour and, to some extent, the role or function of the behaviour (i.e. what its outcome is).

Similarly, obtaining data on other ongoing behaviours (e.g. child speaking, constructing test item) could be utilized to tie the non-verbal behaviours to a context and more clearly distinguish the utility of the non-verbal behaviours.

These approaches, suggested as optimally informative, would entail an extensive system of data coding and collection and also result in a large quantity of data. Fewer non-verbal behaviours than the number selected in the present study would have to be used. However, a more intensive picture of the use of one or two behaviours would emerge and be equally valuable.

Many alternative approaches are possible in distinguishing non-verbal behaviours and their relationship to other variables. The saliency of non-verbal communication in daily interaction situations, and, more

specifically, in parent-child interactions, would suggest that research utilizing such varied approaches would be a useful undertaking. Indeed, the present study did indicate that differing patterns of non-verbal behaviours occur in father-child interaction. A more comprehensive investigation of such patterns appears to be the next step.

CHAPTER VII

SUMMARY AND CONCLUSIONS

Several conclusions emerge from the results of this study. Overall quantity of use of non-verbal behaviours did not differentiate among the fathering modes. The relationships between non-verbal behaviours within each fathering dimension did differentiate among the four ways of relating. This suggests that certain behavioural variables which are used by fathers when interacting with their children are complemented with non-verbal behaviours. Similarly, the child utilizes certain non-verbal behaviours in interaction with his father, partially in response to his father's messages. The results also suggest that for father-child interaction as probably for all interactions it is not the isolated occurrence of a behaviour which is relevant in non-verbal communication, but its use and function in relationship to other behaviours.

A comparison between father-child interaction and mother-child interaction was not part of this study. However, from the present results it appears that there are differences between fathers' use of non-verbal behaviour, as identified in this study, and that of mothers, as found in Hore's (1968) and Brady's (1969) investigations. Although the experimental situations of the studies are not comparable, one would anticipate similar results if fathers

used non-verbal behaviours as mothers did. Since this was not found, it leads to the speculation that fathers and mothers differ in their use of non-verbal behaviours. This has been suggested previously by Osofsky and Oldfield (1971), Bugental, Love and Gianetto (1971) and Bee (1967). Fromm (1956) similarly suggested differences in his discussions of maternal and paternal loving.

The present study has met its objectives. Differential use of non-verbal behaviours in different fathering dimensions were observed, as hypothesised. The function and significance of such behaviours was tentatively identified. More intensive research is necessary to investigate these non-verbal behaviours.

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APPENDIX I

DEFINITION OF VARIABLES FOR FATHERING MODES

(Tari, 1971)

Maturity Demands - Refer to the pressures put upon the child to perform at least up to ability in intellectual, social, and emotional spheres (independence-training) and the leeway given the child to make his/her own decisions (independence-granting).

Variable a - Grants Independence: the percentage of child-initiated sequences where the child requests the right to make a choice or act autonomously and the father complies or offers an alternative (all positive paternal reactions).
Purpose: to measure the father's reaction to a child's active bid to act or decide autonomously.

Variable b - Respects Child's Decision: the percentage of father-initiated control sequences

involving noncompliance where the father retracts a directive on the basis of the child's arguments.

Variable c - Independence Training, Control: the percentage of father-initiated control sequences where the message concerns cognitive insight into cause and effect relations or factual knowledge about the world.

Purpose: to measure the extent to which the father's control efforts are integrated with information or rationale thereby increasing the child's ability to direct himself/herself in accordance with certain principles set forth by the father.

Variable d - Independence Training, Noncontrol: the percentage of father initiated nonpower sequences where the message concerns an exchange of information, an advancement of

	the child's cognitive/social skills, or a decision made by the child.
	Purpose: to measure in non-disciplinary situations the same father behaviour as in Variable c (control).
Control	- Refers to the socializing functions of the father; that is, to those acts of "fathering" intended to shape the child's goal-oriented activity, to modify his/her expressions of dependent, aggressive, or playful behaviour, and to promote internalization of parental standards. Control as defined here is not a measure of restrictiveness, punitive attitudes, or intrusiveness; it includes such variables as consistency in enforcing directives, ability to resist pressure from the child, and willingness to exert influence upon the child.

Variable e - Postive Outcome: the percentage of father-initiated control sequences in which the child complies.

Purpose: to measure the father's ability to enforce directives.

Variable f - Positive Outcome by Persistence: the percentage of father-initiated control sequences in which compliance is achieved after repeated directive.

Purpose: to measure the father's ability to enforce directives when the child initially does not obey.

Variable g - Accepts Power Conflict with Child: the percentage of child-initiated sequences in which the father does not evade the child's request as a method of non-compliance.

Purpose: to measure the father's use of evasion as a tactic when he does not wish to comply with the child's

request.

Variable h - Does Not Accept Power Conflict With Child: the percentage of child-initiated sequences in which the father does not comply with the child's request.

Purpose: to measure the extent to which the father is coerced into complying with the expressed wishes of the child.

Variable i - Uses Incentive and Reinforcement: the percentage of father-initiated control sequences and father-initiated non-control sequences involving the use of incentive or reinforcement.

Purpose: to measure the father's use of reinforcement, either positive or negative.

Communication - Refers to the extent to which the father uses verbal reasoning either to obtain compliance or to solicit the child's opinions and feelings; that

is, the extent to which he uses verbal (open) rather than other manipulative techniques of control.

Variable j - Uses Reason to Obtain Compliance: the percentage of father-initiated control sequences in which the father uses reason with the directive. Purpose: to measure how often the father offers a reason for a directive prior to the child's objection.

Variable k - Encourages Verbal Give and Take: the percentage of control sequences in which, in order to handle a parent-child divergence, the father uses power or reason, or responds with power or reason to the child's demands; that is, the percentage of control sequences in which the father engages the child in argument, generally altering his/her course of action as a result. Purpose: to measure the

extent to which the father responds to divergence by the use of reason and argument rather than power.

Variable 1 - Source of Power Not Disguised: the percentage of father-initiated control sequences involving power wherein the father does not disguise the source of power.

Purpose: to measure the extent to which the father manipulates the child without disguising in his act that he is attempting to control the child.

Nurturance - Refers to the caretaking functions of the father, that is, to those attitudes and acts of "fathering" that express love and are directed at guaranteeing the child's physical and emotional security. Nurturance is expressed by warmth and involvement. By warmth is meant the father's love and compassion for the

child expressed by means of sensory stimulation (glances, mutual glances), verbal approval, and tenderness of expression and touch. By involvement is meant pride and pleasure in the child's accomplishments as manifested in words of praise and in the interest shown.

Variable m - Satisfies Child: the percentage of child-initiated sequences in which the interaction produces satisfaction for the child.

Purpose: to measure the extent to which the father succeeds in satisfying the child in child-initiated sequences.

Variable n - Supports Child: the percentage of child-initiated sequences involving the child's request for support to which the father complies.

Purpose: to measure the father's tendency to react

affirmatively to the child's bids for support and affection.

Variable o - Uses Positive Incentive and Reinforcement: the percentage of father-initiated sequences involving the use of positive incentives and reinforcement.

APPENDIX II

RAW SCORES OF NON-VERBAL BEHAVIOURS

MATURITY DEMANDS

N=14	Mutual Glance	Father-child Glance	Child-father Glance	Mutual Smile	Father-child Smile	Child-father Smile	Physical Control	contact Nurturant
1	83	119	35	31	12	5	8	0
2	49	94	40	7	11	7	1	0
3	60	50	62	2	0	8	10	0
4	52	59	64	20	10	27	1	1
5	38	43	17	22	2	13	1	0
6	48	90	83	1	0	21	10	0
7	63	89	46	18	5	18	0	0
8	25	29	39	6	6	1	2	0
9	72	63	38	14	11	10	6	0
10	20	35	18	2	6	5	1	0
11	53	71	24	5	0	14	0	0
12	71	83	54	13	6	26	19	0
13	20	166	13	3	9	4	2	0
14	27	52	26	3	1	8	0	0

CONTROL

N=9	Mutual Glance	Father-child Glance	Child-father Glance	Mutual Smile	Father-child Smile	Child-father Smile	Physical contact Control	Nurturant
15	45	68	37	4	0	11	9	0
16	63	56	36	6	13	2	7	0
17	129	148	60	29	22	33	12	2
18	22	44	24	8	2	7	12	1
19	33	25	31	5	0	12	4	0
20	150	58	68	25	6	57	3	0
21	40	63	41	4	2	31	1	0
22	142	71	49	30	2	34	16	2
23	30	78	44	10	7	7	5	0

COMMUNICATION

N=10								
24	66	50	36	14	3	9	9	0
25	40	127	8	6	1	10	6	2
26	59	129	35	10	1	6	22	0
27	47	83	8	6	4	5	10	3

	Mutual Glance	Father-child Glance	Child-father Glance	Mutual Smile	Father-child Smile	Child-father Smile	Physical Control	Contact Nurturant
28	43	54	74	8	8	9	0	0
29	58	69	42	5	5	9	[redacted]	0
30	113	71	46	35	23	7	2	1
31	31	79	12	2	1	17	2	0
32	74	84	21	15	14	25	17	0
33	66	76	27	3	2	1	4	0

NURTURANCE

N=13

34	44	68	38	7	4	17	0	1
35	126	38	79	30	1	37	0	8
36	136	86	26	7	9	14	2	8
37	136	141	36	14	1	58	14	0
38	55	53	40	24	9	4	0	5
39	46	53	56	0	2	13	9	0
40	26	56	13	4	2	8	2	0
41	36	77	41	8	23	2	11	0

	Mutual Glance	Father-child Glance	Child-father Glance	Mutual Smile	Father-child Smile	Child-father Smile	Physical Control	Contact Nurturant
42	96	197	26	16	24	21	20	4
43	48	81	16	1	2	8	1	0
44	41	48	8	12	22	1	0	0
45	52	58	25	23	17	9	5	0
46	16	105	5	1	19	0	2	0

APPENDIX III

MEANS AND STANDARD DEVIATIONS

MATURITY DEMANDS

	Means	Standard Deviations
MG	48.643	19.591
FCG	74.500	35.223
CFG	39.929	19.576
MS	10.500	8.974
FCS	5.643	4.302
CFS	11.929	7.959
PCC	4.357	5.393
PCN	.071	.257

CONTROL

	Means	Standard Deviations
MG	72.667	49.270
FCG	67.889	31.977
CFG	43.333	13.098
MS	13.444	10.521
FCS	6.000	6.879
CFS	21.556	17.128
PCC	7.667	4.666
PCN	.556	.8314

COMMUNICATION

	Means	Standard Deviations
MG	59.800	21.858
FCG	82.200	25.262
CFG	30.900	19.419
MS	10.400	9.156
FCS	6.200	6.794
CFS	9.800	6.384
PCC	7.700	6.679
PCN	.600	1.019

NURTURANCE

	Means	Standard Deviations
MG	66.00	40.620
FCG	81.615	42.514
CFG	31.462	19.653
MS	11.308	9.276
FCS	10.385	8.897
CFS	14.769	15.744
PCC	5.077	6.207
PCN	2.000	3.012